

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

WBK
02/724-00410PC

(PCT Article 18 and Rules 43 and 44)

| | | |
|--|---|---|
| Applicant's or agent's file reference 21724-4-1PC | FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. | |
| International application No. PCT/IB 03/05473 ✓ | International filing date (day/month/year) 09/06/2003 ✓ | (Earliest) Priority Date (day/month/year) 10/06/2002 ✓ |
| Applicant GENEPROT, INC. ✓ | | |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1

☐ None of the figures.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/05473

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K1/02 C07K1/04 C07K1/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | <p>T M HACKENG ET AL.: "Protein synthesis by native chemical ligation: expanded scope by using straightforward methodology " PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA., vol. 96, 1999, pages 10068-10073, XP002940700 NATIONAL ACADEMY OF SCIENCE. WASHINGTON., US ISSN: 0027-8424 the whole document</p> <p>---</p> <p>-/--</p> | 1-11 |

☒ Further documents are listed in the continuation of box C.☐ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

25 March 2004

Date of mailing of the international search report

16/04/2004

Name and mailing address of the ISA

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Masturzo, P

C.(Continuation) DOCUMENT CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | Y S LEE ET AL.: "A convergent liquid-phase synthesis of salmon calcitonin" JOURNAL OF PEPTIDE RESEARCH., vol. 54, 1999, pages 328-335, XP002274977 MUNKSGAARD, COPENHAGEN., DK ISSN: 0367-8377 the whole document --- | 1-11 |
| A | R B WOODWARD ET AL.: "The total synthesis of cyclosporin C" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY., vol. 88, no. 4, 20 February 1966 (1966-02-20), pages 852-853, XP002274978 AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC., US ISSN: 0002-7863 the whole document --- | 1-11 |
| A | F AL-OBEIDI ET AL.: "Synthesis of beta- and gamma-fluorenylmethyl esters of respectively N-alpha-Boc-L-aspartic acid and N-alpha-Boc-L-glutamic acid" INTERNATIONAL JOURNAL OF PEPTIDE AND PROTEIN RESEARCH., vol. 35, 1990, pages 215-218, XP002274979 MUNKSGAARD, COPENHAGEN., DK ISSN: 0367-8377 the whole document --- | 1-11 |
| A | G C STELAKATOS ET AL.: "New methods in peptide synthesis. Part III. Protection of carboxyl group " JOURNAL OF THE CHEMICAL SOCIETY, SECTION C: ORGANIC CHEMISTRY., no. 13, 1966, pages 1191-1199, XP002274980 CHEMICAL SOCIETY. LETCHWORTH., GB ISSN: 0022-4952 the whole document --- | 1-11 |
| A | A B CLIPPINGDALE ET AL.: "Peptide thioester preparation by FMOC solid phase peptide synthesis for use in native chemical ligation" JOURNAL OF PEPTIDE SCIENCE., vol. 6, no. 5, pages 225-234, XP009015362 JOHN WILEY AND SONS LTD., GB ISSN: 1075-2617 the whole document --- -/-- | 1-11 |

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/05473

C.(Continuation) DOCUMENT CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| T | M VILLAIN ET AL.: "Native chemical ligation with aspartic and glutamic acids as C-terminal residues: scope and limitations." EUROPEAN JOURNAL OF ORGANIC CHEMISTRY., no. 17, 2003, pages 3267-3272, XP002274981 WILEY-VCH, WEINHEIM., DE ISSN: 1434-193X the whole document | 1-11 |
| P,X | --- M VILLAIN ET AL.: "Backbone isomerization at aspartic-, glutamic acid-cysteine ligation " JOURNAL OF PEPTIDE SCIENCE., vol. 8 (suppl.), 31 August 2002 (2002-08-31), page s108 XP009015060 JOHN WILEY AND SONS LTD., GB ISSN: 1075-2617 the whole document ----- | 1-11 |